

LOREN F. SELZNICK
NEW FM STATION
103.7 MHZ, CHANNEL 279A
EL RIO, CALIFORNIA

**ENGINEERING EXHIBIT IN SUPPORT OF
APPLICATION FOR CONSTRUCTION PERMIT**

December 13, 1991

©1991 Hammett & Edison, Inc.
Reproduction of this report for the purpose of filing
a competing application is expressly prohibited.

Hammett & Edison, Inc.
Consulting Engineers
San Francisco

**NEW FM STATION
103.7 MHZ, CHANNEL 279A
EL RIO, CALIFORNIA**

ENGINEERING STATEMENT OF JONATHAN C. STILWELL

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by Loren F. Selznick to prepare the engineering portion of an application for construction permit for a new FM station on Channel 279A at El Rio, California.

PROPOSED OPERATION

It is proposed to locate the transmitting facilities atop Willis Peak, approximately 10 km northwest of El Rio, California. It is proposed to operate with 350 watts effective radiated power at an antenna height of 231 meters above average terrain. The proposed two-bay circularly polarized antenna will be mounted on a new wooden pole with an overall height of 19 meters above ground. Attached figures show the site location and vertical elevation of the proposed operation. Standby power generation capability will be provided to ensure continued operation during periods of local commercial power failure.

It is proposed to operate the transmitter by remote control from a studio and remote control point to be located within the calculated 3.16 mV/m contour.

ALLOCATION CONDITIONS

The following table shows the distances from the proposed transmitter site to all pertinent existing stations or allotments:

| <u>Channel</u> | <u>Nearest Allotment</u> | <u>FCC Required Distance</u> * | <u>Distance from Proposed Site</u> |
|----------------|-------------------------------|------------------------------------|--|
| 225A | New allocation, Montecito, CA | 10 km | 42 km |
| 226B | KCBS-FM, Los Angeles, CA | 15 | 107 |
| 276A | KSRF(FM), Santa Monica, CA | 31 | 84 |
| 277B | KRUZ(FM), Santa Barbara, CA | 69 | 71 |
| 278B | KOST(FM), Los Angeles, CA | 105 [†] | 108 |
| 279B | KJQY(FM), San Diego, CA | 178 | 245 |
| 280A | KACE(FM), Inglewood, CA | 72 | 86 |
| 281B1 | KBOX(FM), Lompoc, CA | 48 | 120 |
| 282B | KBIG(FM), Los Angeles, CA | 69 | 107 |

As the petition for the El Rio allotment was filed prior to October 2, 1989, the applicant is availing herself of the provisions of Section 73.213(c) in determining the required spacing to FM Station KOST, Channel 278B, Los Angeles, California; the proposed spacing to that station is therefore adequate. In all other cases the proposed transmitter location complies with the minimum distance separation requirements in Section 73.207(b)(1) of the FCC Rules.

* FCC Rules Section 73.207(b)(1) distances used, except where noted.

[†] FCC Rules Section 73.213(c) used to determine required spacing.

**NEW FM STATION
EL RIO, CALIFORNIA**

U.S.-MEXICAN FM AGREEMENT COMPLIANCE

The proposed site is less than 320 kilometers from the U.S.-Mexican border, necessitating compliance with the U.S.-Mexican FM Agreement. The proposed effective radiated power was derived from the graph in Annex IV of the Agreement: the 231-meter height above average terrain yields a maximum radiated power of -4.6 dBk, which equals the proposed 350 watts when rounded according to Section 73.212 of the FCC Rules.

**NEW FM STATION
EL RIO, CALIFORNIA**

73.1030 concerning protection of radio astronomy, radio research, and FCC monitoring stations. FAA restrictions are not expected, as the overall height of the antenna structure will be much less than 200 feet, and there are no landing areas within 8 kilometers of the proposed site.

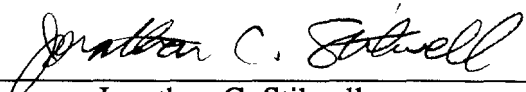
The proposed facilities would comply with the ANSI C95.1-1982 guidelines for human exposure to non-ionizing electromagnetic radiation. Calculations made in accordance with FCC OST Bulletin No. 65, including the simultaneous operation of all nearby broadcast facilities, show that RF levels at ground level would be less than 4% of the ANSI limit. Therefore, no public access restrictions would be required. The applicant should fence the base of the tower to prevent access by unauthorized persons to the transmitting antenna and should post radio frequency radiation warning signs at the transmitter site. The applicant should establish appropriate preventive measures to avoid excessive occupational exposure conditions, as well. Unless measurements made after construction show that less strict access restrictions are permitted, the station should cease operation for all on-tower access higher than 9.1 meters above ground. Finally, the RF levels at the nearby broadcast facilities due to the proposed facility would not exceed 2% of the ANSI limit, either at ground level or on the towers. While calculations of conditions on those towers indicate that this contribution will not affect any programs already in place there to comply with ANSI, the applicant should nevertheless inform those facilities of her commitment to reduce power or cease operation if required to ensure continued compliance at those sites.

LIST OF FIGURES

In carrying out these engineering studies, the following attached figures were prepared by me or under my direct supervision:

1. Engineering specifications of proposed operation
2. Maps showing proposed site
3. Antenna elevation drawing
4. Tabulation of terrain and coverage data
5. Map showing proposed coverage.

HAMMETT & EDISON, INC.
Consulting Engineers


Jonathan C. Stilwell

December 13, 1991

AFFIDAVIT

State of California)
) ss:
County of San Mateo)

Jonathan C. Stilwell, being first duly sworn upon oath, deposes and says:

1. That he is a qualified engineer and is employed by the firm of Hammett & Edison, Inc., Consulting Engineers, with offices located near the city of San Francisco, California,

2. That he graduated from Stanford University with a Bachelor of Science degree in Electrical Engineering in 1985, was employed from 1985 to 1991 in the field of electronic design and radio frequency engineering at Motorola, Inc., and Catel Telecommunications, Inc., and has been associated with the firm of Hammett & Edison, Inc., since August 1991,

3. That the firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by Larry E. Solonick to prepare the engineering portion of an application for construction permit

**NEW FM STATION
103.7 MHZ, CHANNEL 279A
EL RIO, CALIFORNIA**

ENGINEERING SPECIFICATIONS OF PROPOSED OPERATION

A. Transmitter Site

| | |
|----------------|--------------|
| North Latitude | 34° 18' 09" |
| West Longitude | 119° 13' 44" |

Atop Willis Peak, Ventura County, California,
approximately 10 km northwest of El Rio

B. Studio & Remote Control Point

To be located within the 3.16 mV/m contour

C. Equipment

| | | |
|-------------------|---|--------|
| Transmitter | 1000 W, type accepted | 1.0 kW |
| Transmission line | Andrew, Type LDF5-50A, 7/8" foam dielectric | 25 m |
| Tower | Wooden pole | 19 m |
| Antenna | Jampro, Model JLLP-2 | 2-bay |
| Standby generator | Onan 2.5AJ-3R | 2.5 kW |

D. Height

| | |
|---|-------|
| Height of site above mean sea level | 366 m |
| Height of tower above site | 19 m |
| Overall height above mean sea level | 385 m |
| Elevation of 3-16 km average terrain above mean sea level | 153 m |
| Effective height of antenna above site | 18 m |
| Effective height of antenna above average terrain | 231 m |
| Effective height of antenna above mean sea level | 384 m |

E. Operation

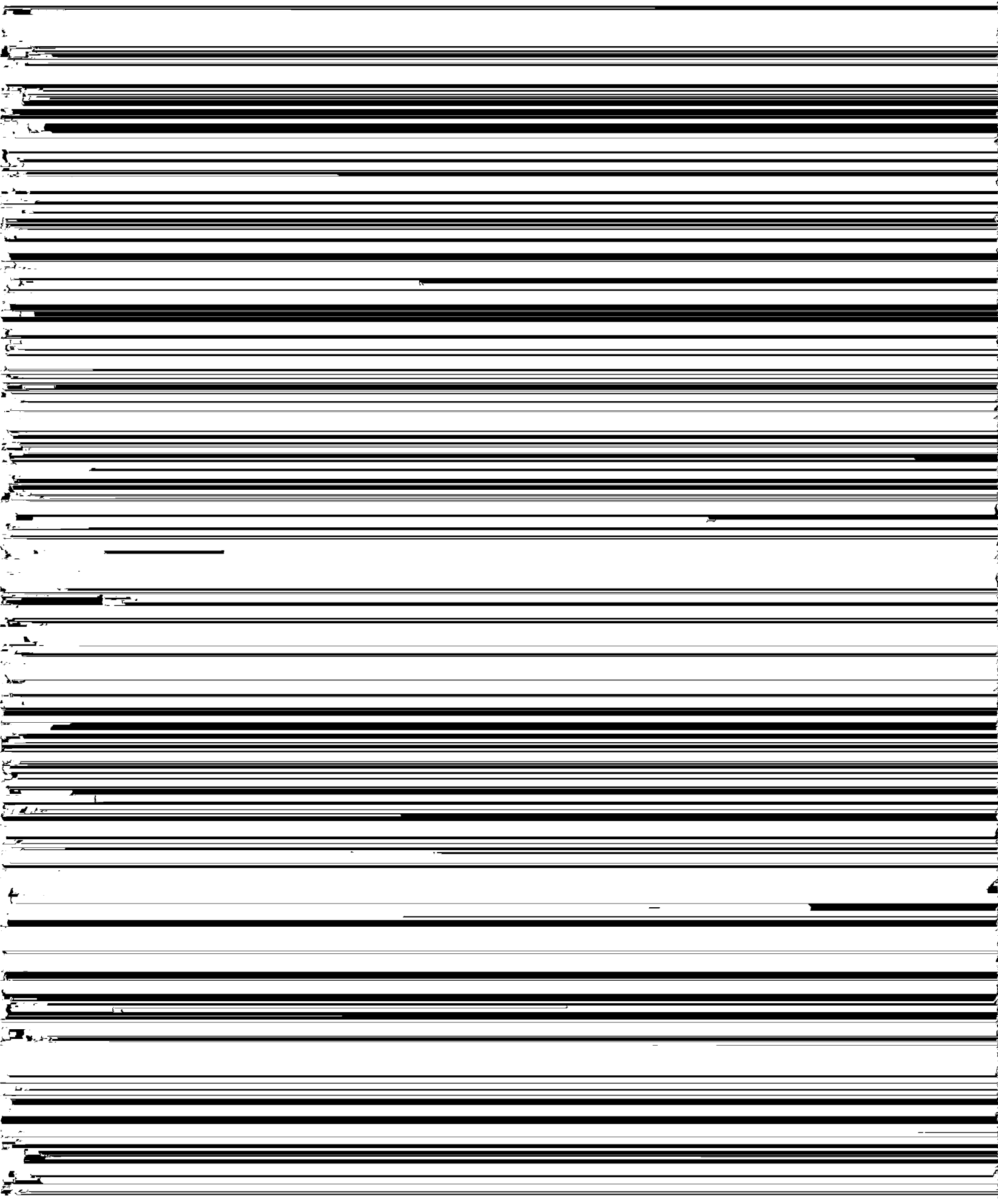
| | |
|---|---------|
| Transmitter output | 0.39 kW |
| Transmission line efficiency | 93.1% |
| Antenna power gain – circularly polarized | 0.96 |
| Effective radiated power – circularly polarized | 0.35 kW |

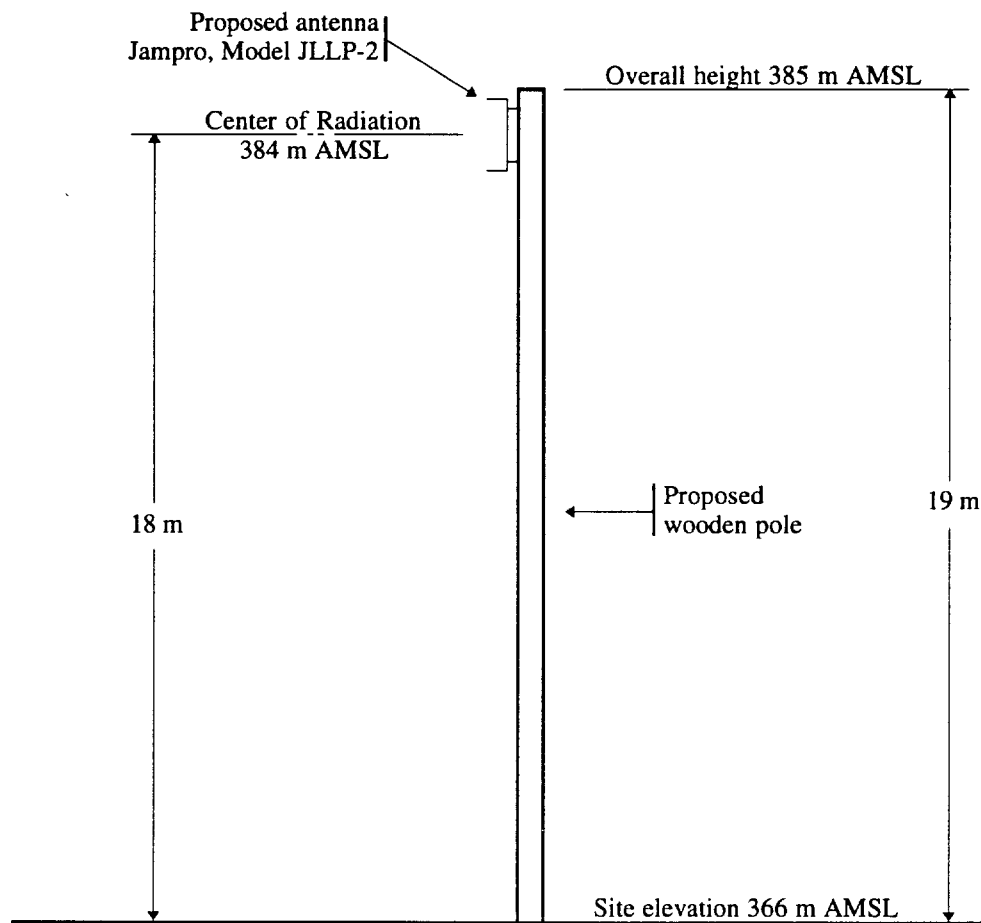
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF CALIFORNIA
REPRESENTED BY THE
DIRECTOR OF PUBLIC WORKS

SATICOY QUADRANGLE
CALIFORNIA-VENTURA CO
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW 1/4 SANTA PAULA 15 QUADRANGLE







North Latitude 34° 18' 09"
 West Longitude 119° 13' 44"

DRAWING NOT TO SCALE

POLE TO BE PAINTED AND LIGHTED
 IN ACCORDANCE WITH FAA REQUIREMENTS

HAMMETT & EDISON, INC.
 CONSULTING ENGINEERS
 SAN FRANCISCO

NEW FM STATION
 103.7 MHZ, CHANNEL 279A
 EL RIO, CALIFORNIA

**PROPOSED
 ANTENNA ELEVATION**

911205

FIGURE 3

**NEW FM STATION
103.7 MHZ, CHANNEL 279A
EL RIO, CALIFORNIA**

**TERRAIN AND COVERAGE DATA
PROPOSED OPERATION**

| <u>Azimuth</u> | <u>Average Elevation¹ (3 to 16 km)</u> | <u>Antenna Height Above Average Terrain²</u> | <u>Effective Radiated Power³</u> | <u>Distance to Contours⁴</u> | |
|----------------------|---|---|---|---|---------------|
| | | | | <u>3.16 mV/m</u> | <u>1 mV/m</u> |
| N 0° E | 353 m | 31 m | 0.35 kW | 4.4 km | 7.8 km |
| 15 | 466 | -82 ⁵ | 0.35 | 4.3 | 7.7 |
| 30 | 440 | -56 ⁵ | 0.35 | 4.3 | 7.7 |
| 45 | 284 | 100 | 0.35 | 7.9 | 14.0 |
| 60 | 222 | 162 | 0.35 | 10.1 | 18.2 |
| 75 | 137 | 247 | 0.35 | 12.5 | 22.2 |
| 90 | 137 | 247 | 0.35 | 12.5 | 22.2 |
| 105 | 85 | 299 | 0.35 | 13.7 | 24.3 |
| 120 | 53 | 331 | 0.35 | 14.4 | 25.6 |
| 135 | 37 | 347 | 0.35 | 14.8 | 26.2 |
| 150 | 26 | 358 | 0.35 | 15.0 | 26.6 |
| 165 | 21 | 363 | 0.35 | 15.1 | 26.7 |
| 180 | 16 | 368 | 0.35 | 15.2 | 26.9 |
| 195 | 23 | 361 | 0.35 | 15.1 | 26.7 |
| 210 | 35 | 349 | 0.35 | 14.8 | 26.2 |
| 225 | 42 | 342 | 0.35 | 14.7 | 26.0 |
| 240 | 85 | 299 | 0.35 | 13.7 | 24.3 |
| 255 | 108 | 276 | 0.35 | 13.2 | 23.4 |
| 270 | 172 | 212 | 0.35 | 11.6 | 20.7 |
| 285 | 172 | 212 | 0.35 | 11.6 | 20.7 |
| 300 | 286 | 98 | 0.35 | 7.8 | 13.8 |
| 315 | 184 | 200 | 0.35 | 11.3 | 20.1 |
| 330 | 215 | 169 | 0.35 | 10.4 | 18.6 |
| 345 | 267 | 117 | 0.35 | 8.6 | 15.1 |
| Average ⁶ | 153 | 231 | | | |

¹ USGS 3-second topography database

² 384 m Effective Height minus Average Elevation

³ Maximum Class A facilities, subject to U.S.-Mexican FM Agreement

⁴ FCC Rules, Section 73.333, Figure 1

⁵ Height of 30 m used to project distance to contours

⁶ Includes only eight standard radials

